

## REMARKS

Claims 1-24 and 26-28, as amended, and new claim 29 are pending for consideration by the Examiner. Various claims have been amended, as suggested by the examiner, to clarify that the claimed invention is presently directed to methods of forming jewelry rings rather than other jewelry articles, and claim 1 has been amended to clarify that it is directed to an annular finger ring that defines an aperture configured and dimensioned to receive a person's finger. Accordingly, claim 17 has been canceled. Claims 11-12 and 14 have been amended to clarify that the slot, groove, or notch in the annular ring does not extend entirely through the ring or that the cavity extends into the ring but not entirely through the ring (*See, e.g.*, FIG. 2). Claim 18 has been amended to correct a clerical error in omitting the word "to." Claim 19 has been amended to recite a preferred embodiment wherein the method further comprises disposing a metal-containing portion in the form of a coating is over a portion of the sintered hard material (*See, e.g.*, Specification at page 11, lines 24-29). Claim 25 has been cancelled as its features have been added to claim 1. Claims 1-26 and 28 are now believed to be commensurate in scope with the demonstration of commercial success in the West Declaration previously submitted. Also, several dependent claims have been amended to recite formed or shaped instead of "ground." Claim 27 has been rewritten in independent form in view of the Declaration submitted herewith, as discussed herein. Claim 27 recites consists essentially of, which permits inclusion of various components such as binders, but excludes components such as nitrides and stainless steel as noted in the prior Amendment because these would undesirably affect, *e.g.*, the hardness of the jewelry rings resulting from the claimed methods. New claim 29, previously claim 25 but now dependent upon claim 27, has been added. No new matter has been introduced by way of these amendments or claim additions, such that the claims are in condition for entry into the application at this time at least to reduce the issues for appeal in particular by placing the claims in condition for allowance.

Claims 1-3, 19-21, 23-24, and 26-28 were rejected under 35 U.S.C. § 102(b) for anticipation over GB 950127 to Lederrey, which is equivalent to U.S. Patent No. 3,242,664 to Lederrey ("Lederrey") on pages 2-4 of the Office Action. Lederrey is stated to disclose a method of making a jewelry article (a watchcase) by providing an annular body of a hard material including tungsten carbide and grinding an external facet using a grinding wheel leaded with a finely divided diamond powder.

Initially, claim 1 recites providing an annular finger ring that defines an aperture configured and dimensioned to receive a person's finger, an article that Lederrey

fails to disclose or suggest, in part because it discloses only a *watch case* including a portion made of tungsten carbide, rather than the presently claimed jewelry ring. A ring is a completely different structure from a watch case, and involves different manufacturing techniques, as well. In fact, the tungsten carbide structure 1 of Lederrey itself is not circular, but is either a rounded square/rectangle (FIGS. 1 and 3 of Lederrey), a substantially rectangle shape (FIG. 7; Col. 5, lines 7-9), or a part-circle and part-downward angled post to hold a watch band (FIG. 5). Moreover, Lederrey simply fails to disclose or suggest a finger ring in that it is directed to a watch case.

Lederrey's watch case also appears to require some type of band connection means, such as posts formed or screw holes for receiving screws, to permit attachment of watch bands to the sintered tungsten carbide case, and thus Lederrey cannot teach providing the annular finger ring defined by claim 1 (*See, e.g.*, Lederrey at Col. 2, lines 20-22; Col. 3, lines 44-46). Lederrey does not and cannot make an annular ring in lieu of his watch case, however, because there would be no means for attaching Lederrey's required watchband to the "annular ring." For this additional reason, it is clear that Lederrey does not and cannot teach how to make an annular ring of sintered tungsten carbide in the form of a finger ring for his watch products.

In addition, while Lederrey does disclose external surface 2 and inner surface 9, and that structure is in part circular, surfaces 2 and 9 of Lederrey are *not* concentric as presently recited in claim 28. Rather, Lederrey teaches two *parallel* surfaces that are part of one structure (piece 1), and it does not teach inner and external surfaces that are concentric around the circumference of a ring, as presently recited in claim 28. Thus, as previously discussed, Lederrey simply does not disclose--much less suggest--a ring with continuous concentric portions, as presently recited in claims 1 or 28. Moreover, claim 19 recites that the finger ring is integrally formed, while Lederrey teaches that multiple structures must be combined—and then to form a watch case rather than a ring. Further, claim 19 recites a metal-containing portion that forms a coating over at least a portion of the sintered hard material. As such, Lederrey fails to disclose or remotely suggest the integrally formed jewelry ring in the form of a finger ring, as recited in claim 19. Because claim 1 now recites forming jewelry rings, forming a ring structure as part of Lederrey's watch case cannot teach integrally forming the present annular finger ring. Lederrey's watchcase includes additional steps and formation of a complicated structure that does not form and cannot be used as a finger ring. Thus, because Lederrey fails to identically disclose, much less suggest, each and

every feature of the presently claimed invention. As such, the rejection under 35 U.S.C. § 102(b) should be reconsidered and withdrawn.

Additionally, claim 27 was rejected for anticipation. On the contrary, Lederrey teaches to use a prior art two-step sintering process that is more cumbersome and difficult than a single sintering step, and involves cutting work pieces off a block of material that is not fully sintered in between the sintering steps (Col. 3; lines 17-42). In sum, Lederrey, even in combination with the other cited references below, fails to teach each and every feature presently recited and it cannot therefore render obvious the claimed invention. Claim 27, however, recites that a single sintering is used to form the jewelry ring of the present invention. In view of the above discussed amendment to recite that claim 1 is a jewelry ring in the form of a finger ring, it is believed that Lederrey cannot anticipate claim 1. As such, Applicant respectfully requests that not even a *prima facie* case of obviousness under 35 U.S.C. § 103(a) can be shown.

Even if a *prima facie* case of obviousness could still be made in view of the above-noted deficiencies in Lederrey, whether taken alone or in combination with the cited references, Applicant submits herewith a Declaration of Deb Mukhopadhyay Under 37 C.F.R. § 1.132 (the "Mukhopadhyay Declaration") to demonstrate the patentability of claim 27 over the combination of Lederrey and any or all of the cited prior art references noted by the Examiner in connection with the obviousness rejections. A copy of the Mukhopadhyay Declaration is attached. This Declaration could not have been submitted previously because claim 27 has only now been rejected for the first time in the pending final Office Action. Thus, this is Applicant's first opportunity to submit Declaration-style evidence in connection with claim 27 and, as such, the Declaration should be entered and considered at this time.

The Mukhopadhyay Declaration notes that Lederrey teaches a double-step sintering process to make watch cases in contradistinction to the single-step sintering of claim 27 (Mukhopadhyay Declaration at ¶ 6). Lederrey taught this presintering as being necessary to dewax the green carbide so that the carbide could be machined easily without equipment difficulties like clogging, while leaving the carbide porous after presintering (*Id.*). Additionally, the Lederrey patent also teaches the necessity of a final sintering (*Id.* at ¶ 7), while claim 27 elegantly avoids the presintering step required by Lederrey in that it forms the hard material with a single sintering step (*Id.* at ¶ 8).

The Office Action states that Lederrey's preliminary step is not a "typical sintering step." This is not understood, however, because Lederrey itself teaches a "presintering." Regardless of whether or not this is "typical," Lederrey clearly and expressly

teaches presintering. The Office Action mistakenly compares the "green blank" described in the present application, which has simply been compression molded, with a "presintered" workpiece from Lederrey that is treated at 350°C (*Id.* at ¶ 6). These are different processes and this clearly illustrates that claim 27 is separately patentable over Lederrey—because the preliminary sintering of Lederrey is not "akin to the molding of Applicant." (Mukhopadhyay Declaration at ¶¶ 9-10). In view of the explanatory evidence presented in the Mukhopadhyay Declaration, it is believed that even a *prima facie* case of obviousness has been clearly rebutted. As such, Applicant respectfully requests that the rejections under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

Claims 9-10, 14, 17, and 22 were rejected for obviousness over Lederrey in view of U.S. Patent No. 3,837,163 to Fujimori ("Fujimori"), JP 61-177351 to NIPPON TUNGSTEN ("NIPPON"), JP 64-008245 to Maruyama et al. ("Maruyama"), Iler, and U.S. Patent No. 4,740,935 to Goniati ("Goniati"), collectively the "state of the art," on pages 4-9 of the Office Action. Fujimori is stated to disclose a watch band of a hard tungsten carbide material polished to a mirror finish, while NIPPON is stated to disclose a sintered alloy of tungsten carbide (e.g., 82%) for watch cases, necklaces, and other ornamental parts with a high hardness. Maruyama cumulatively is alleged to disclose a hard material principally of tungsten carbide for watchbands and watchcases, and Goniati is stated to disclose pieces of jewelry for watchcases, watchbands, bracelets, rings, cuff links, brooches, pendants, and the like, protected by a sintered hard metal shielding. The Office Action cites MPEP § 2144.07, which essentially states that the selection of a known material for its intended use supports a *prima facie* obviousness determination. The Office Action does concede that Lederrey does not teach the percentage or density of the hard material.

Based on the discussion above, Lederrey fails to teach the shape and configuration of the claimed jewelry ring in addition to the percentage or density of the hard material. As allegedly taught by the "state of the art," jewelry articles can be formed in any of a variety of shapes. At best, Goniati mentions its hard material as a shielding for watch cases and mentions rings only in passing. Indeed, none of these references teaches an annular jewelry ring in the form of a finger ring that is formed from a hard material consisting essentially of, or consisting of, tungsten carbide alone or with a metal binder component, much less provides one of ordinary skill in the art with the motivation to do so. Although Goniati teaches jewelry including a ring, it *teaches away* from the claimed invention by disclosing to avoid making the jewelry entirely out of sintered hard metals and to avoid

setting such materials in contact with the skin (Col. 2, lines 30-32). Goniart also teaches only forming flat sintered hard metal pieces to be affixed to an anchoring body, and that these separate sintered pieces can be disposed of without wasting the body member should any deficiencies occur (Col. 2, lines 55-60). Lederrey similarly teaches that it is not advisable to make its whole case-band of a hard sintered metal, since it would not be practical to provide screwthreads in such a piece (Col. 3, lines 52-54). Thus, Lederrey teaches away from the claimed methods of providing a jewelry ring that consists essentially of tungsten carbide, and in a preferred embodiment consists essentially of tungsten carbide and a metal binder material to facilitate formation of the claimed hard material. Thus, none of the state of the art references—or Lederrey, for that matter—provided those of ordinary skill in the art the motivation to form jewelry rings in the form of a finger ring made of a hard material that consists essentially of tungsten carbide, as presently recited.

Nor would it have been obvious to do so, because there is no teaching, suggestion or motivation present in the cited art that would have led one of ordinary skill in the art to even consider such a construction prior to the time of Applicant's surprising and unexpected invention. Indeed, the closest prior art in the rejection, which is not even a jewelry ring as presently recited, is from almost 40 years ago—and the secondary references are from more than 16 years ago at best. It was not until the present invention was surprisingly achieved by Applicant that the long-felt need for improvements in methods for making jewelry rings was achieved.

Additionally, as discussed in the prior Amendment filed November 29, 2004, the West Declaration demonstrated the significant results achieved in the marketplace in terms of sales of finger rings made according to the claimed invention. Indeed, with minimal advertising and marketing (West Declaration at ¶¶ 5-6), the Applicant has developed a new market for jewelry rings prepared by the claimed method (West Declaration at ¶¶ 6-7). Moreover, the jewelry rings prepared according to the claimed methods have been tremendously commercially successful. In just over five years, Applicant has grown sales from nothing into a multi-million dollar business (West Declaration at ¶¶ 6 and 10). It is also believed, in view of the minimal advertising and marketing expenses, that it is the inventive features claimed in the application that have led to this commercial success (West Declaration at ¶¶ 8-10). In view of the evidence presented in the West Declaration, coupled with the modification of the claim to recite it is in the form of a finger ring, as suggested by the Examiner, make the Declaration and its showing commensurate in scope with the claims. Thus, it is believed that even a *prima facie* case of obviousness has been clearly rebutted in

connection with Lederrey and the state of the art references of record. Applicant respectfully requests that the obviousness rejections be reconsidered and withdrawn.

Claims 4-8 and 10-17 and 25 were rejected for obviousness over Lederrey in view of all the references above and further in view of Oganessian, U.S. Patent No. 1,863,618 to Brogan, Aus. Patent No. 208,883 to Hawke, and U.S. Patent No. 3,712,079 to Eberle on pages 8-9 of the Office Action. As the claims in this rejections includes only dependent claims, and the invention recited in claim 1 is patentable as previously discussed, these rejections are believed to be moot as all claims depending therefrom are patentable as well.

In spite of this, Applicant wishes to point out a few additional reasons why the claims are patentable even over the above noted combination rejections.

The secondary references appear to be relied upon for the purposes of showing conventional jewelry-making techniques. These techniques simply do not work on extremely hard materials like those consisting essentially of tungsten carbide. For this additional reason, it is clear that Lederrey does not and cannot teach how to make an annular ring for his products. Due to the extreme difficulty of working with an annular-shaped hard material like tungsten carbide (*See, e.g.*, Goniart at Col. 2, lines 47-50), one of ordinary skill in the art would not have reasonably expected to achieve success in using conventional shaping methods in references like Oganessian and Hawke to work tungsten carbide materials. Oganessian clearly cannot be directed to a hard material of the type presently claimed, because it teaches use of conventional groove cutting and drill equipment to perform the methods therein. Thus, it cannot provide motivation to provide an annular ring made of a hard material comprising tungsten carbide, or to shape or form at least one facet of such a material to a predetermined shape, as presently recited. One of ordinary skill in the art would not have been motivated to combine Oganessian or Hawke with Lederrey's materials or any other material that was too hard to grind or polish using conventional drilling or groove cutting equipment. Indeed, those of ordinary skill in the art would have expected to fail in providing an annular ring including a hard material like tungsten carbide as taught by Oganessian.

In fact, claims 10-16 recite providing a cavity, groove, slot, notch, or hole, and possibly an insert, into the hard material. The secondary references fail to remedy the deficiencies of the references that allegedly disclose tungsten carbide articles, *e.g.*, Lederrey Fujimori, NIPPON, Maruyama, Iler, and Goniart, as none of the references--even taken in any combination--do not suggest methods for providing such cavity, groove, slot, notch, or hole, or insert, into the hard material. In view of this lack of motivation to combine, and lack of

reasonable expectation of success in the art, Applicant respectfully submits that a *prima facie* case of obviousness has not been demonstrated on the record, even without considering the commercial success demonstrated in the West Declaration. As such, Applicant respectfully requests that the obviousness rejections under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

Thus, Applicant now believes all claims to be in condition for allowance. Should the Examiner not agree with this position, a further telephone or personal interview is requested to resolve any remaining issues and expedite allowance of this application.

Respectfully submitted,

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Date

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Enclosure